at the end of the model year. Manufacturers that have certified engine families to FELs above the applicable emission standards and do not have sufficient emission credits to offset the difference between the emission standard and the FEL for such engine families will be in violation of the conditions of the certificate of conformity for such engine families. The certificates of conformity may be voided *ab initio* for those engine families.

(j) In the event of a negative credit balance resulting from a credit trade, both the buyer(s) and the seller(s) are liable, except in cases involving fraud. Certificates of all engine families participating in a negative trade may be voided *ab initio*.

(1) Where a buyer of credits is not responsible for causing the negative credit balance, the buyer is only liable to supply additional credits equivalent to any amount of invalid credits that the buyer used for its engine family(ies).

(2) Credit holders responsible for the credit shortfall may be subject to the requirements of § 94.309(g)(3).

(k) The following provisions limit credit exchanges between different types of engines:

(1) Credits generated by Category 1 engine families may be used for compliance by Category 1 or Category 2 engine families. Credits generated from Category 1 engine families for use by Category 2 engine families must be discounted by 25 percent.

(2) Credits generated by Category 2 engine families may be used for compliance only by Category 2 engine families.

(3) Credits may not be exchanged between recreational and commercial engines.

(l) Credit life shall be unlimited.

(m) *Upper limits.* The FELs for $THC+NO_X$ and PM for new engines certified for participation in this averaging, banking and trading program may not exceed the following values:

(1) For Category 1 engines, the FEL may not exceed the levels contained in Table D–1, which follows:

TABLE D–1—CATEGORY 1 UPPER LIMITS FOR TIER 2 FAMILY EMISSION LIMITS

Subcategory liters/cylinder	Model year[1]	$THC+NO_X$ FEL g/kW-hr	PM FEL g/kW-hr
Power ≥ 37 kW disp. < 0.9	2005	11.5	1.2
0.9 ≤ disp. < 1.2	2004	11.5	1.2
1.2 ≤ disp. < 2.5	2004	10.5	0.54
2.5 ≤ disp. < 5.0	2007	10.5	0.54

[1] The model years listed indicate the model years for which the specified standards start.

(2) For Category 2 engines, the FEL may not exceed the applicable standard by more than 25 percent.

[64 FR 73331, Dec. 29, 1999, as amended at 67 FR 68346, Nov. 8, 2002]

§ 94.305 Credit generation and use calculation.

(a) For each participating engine family, calculate $THC+NO_X$ and PM emission credits (positive or negative) according to the equation in paragraph (b) of this section and round emissions to the nearest one-hundredth of a megagram (Mg). Use consistent units throughout the calculation.

(b) Credits (Mg) for each engine family are calculated as: Emission credits = (Std—FEL)×(UL)×(Production)×(AvgPR)×(LF)×(10^{-6})

Where:

(i) Std = the applicable cycle-weighted marine engine $THC+NO_X$ or PM emission standard in grams per kilowatt-hour.

(ii) FEL = the family emission limit for the engine family in grams per kilowatt-hour. (The FEL may not exceed the limit established in §94.304(m) for each pollutant.)

(iii) UL = the useful life in hours of operation.

(iv) Production = the number of engines participating in the averaging, banking, and trading program within the given engine family during the calendar year (or the number of engines in the subset of the engine family for

which credits are being calculated). Quarterly production projections are used for initial certification. Actual applicable production/sales volumes are used for end-of-year compliance determination.

(v) AvgPR = average power rating of all of the configurations within an engine family, calculated on a sales-weighted basis, in kilowatts.

(vi) LF = the load factor, dependent on whether the engine is intended for propulsion or auxiliary applications, as follows:

(A) 0.69 for propulsion engines,

(B) 0.51 for auxiliary engines.

[64 FR 73331, Dec. 29, 1999, as amended at 68 FR 9786, Feb. 28, 2003]

§ 94.306 Certification.

(a) In the application for certification a manufacturer must:

(1) Declare its intent to include specific engine families in the averaging, banking, and/or trading programs. Separate declarations are required for each pollutant (THC+NO_X and PM).

(2) Declare FELs for each engine family participating in certification averaging, banking, and/or trading.

(i) The FELs must be to the same number of significant digits as the emission standard.

(ii) In no case may the FEL exceed the upper limit prescribed in § 94.304(m).

(3) Conduct and submit detailed calculations of projected emission credits (positive or negative) based on quarterly production projections for each participating family and for each pollutant, using the applicable equation in § 94.305 and the applicable values of the terms in the equation for the specific family.

(i) If the engine family is projected to have negative emission credits, state specifically the source (manufacturer/engine family) of the credits necessary to offset the credit deficit according to quarterly projected production.

(ii) If the engine family is projected to generate credits, state specifically where the quarterly projected credits will be applied (manufacturer/engine family or reserved).

(4) Submit a statement that the engines for which certification is requested will not, to the best of the manufacturer's belief, cause the manufacturer to have a negative credit balance when all credits are calculated for all the manufacturer's engine families participating in the averaging, banking, and trading program.

(b) Based on this information, each manufacturer's certification application must demonstrate:

(1) That at the end of model year production, each engine family has a net emissions credit balance equal to or greater than zero for any pollutant and program for which participation in certification under averaging, banking, and/or trading is being sought. The equation in section § 94.305 shall be used in this calculation for each engine family.

(2) That the manufacturer will obtain sufficient credits to be used to comply with the emission standard for any engine family with an FEL that exceeds the applicable emission standard, or where credits will be applied if the FEL is less than the emission standard. In cases where credits are being obtained, for each engine family involved the manufacturer must identify specifically the source of the credits being used (manufacturer/engine family). All such reports shall include all credits involved in certification averaging, banking, or trading.

(3) That in cases where credits are being generated/supplied, the use of such credits is specifically designated (manufacturer/engine family or reserved). All such reports shall include all credits involved in certification averaging, banking, or trading.

(c) Manufacturers must monitor projected versus actual production throughout the model year to ensure that compliance with emission standards is achieved at the end of the model year.

(d) At the end of the model year, the manufacturer must provide the end-of-year reports required under § 94.309.

(1) Projected credits based on the information supplied in the certification application may be used to obtain a certificate of conformity. However, any such projected credits must be validated based on review of the end of model year reports and may be revoked at a later time based on follow-up audits or any other verification measure